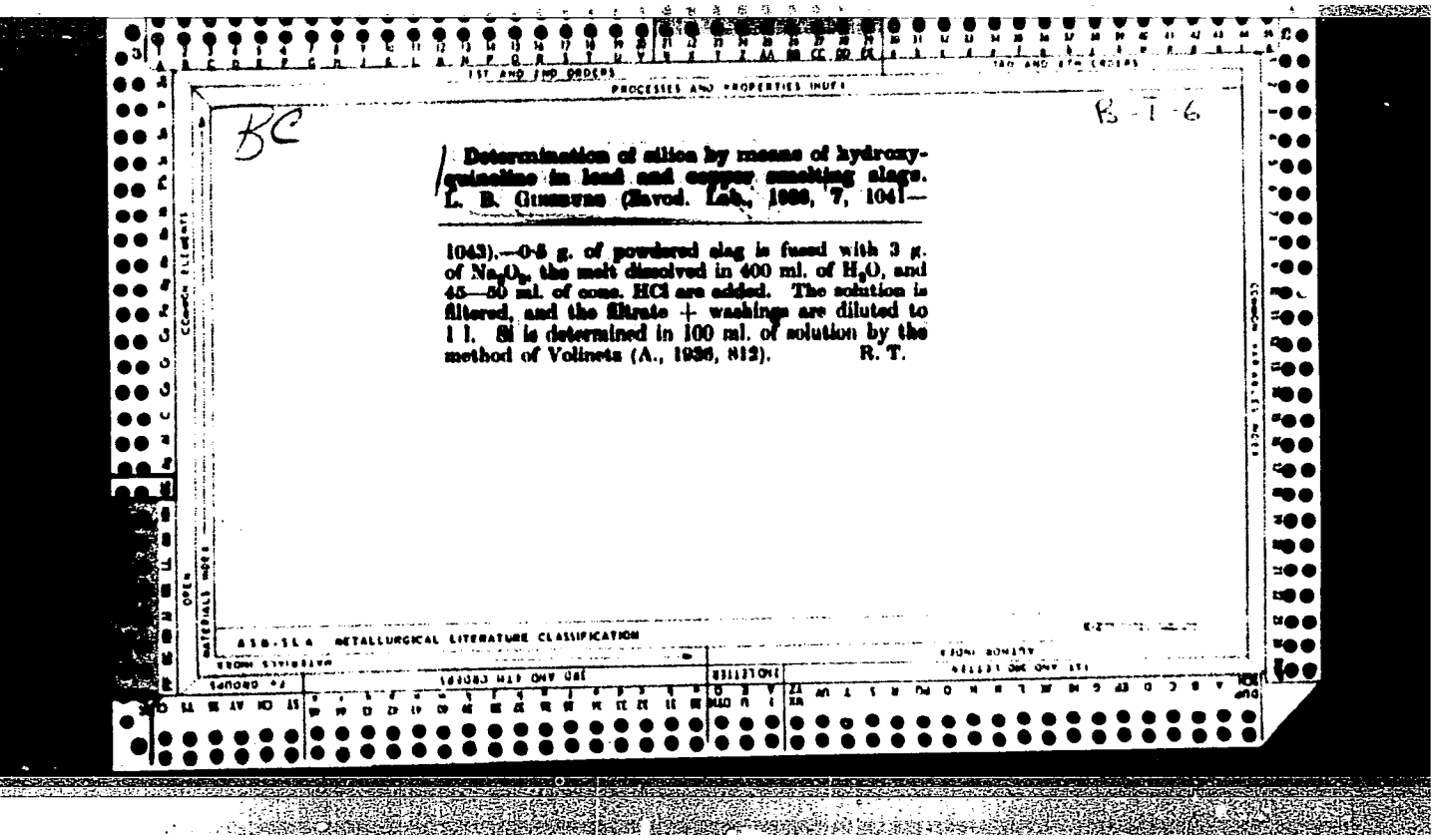
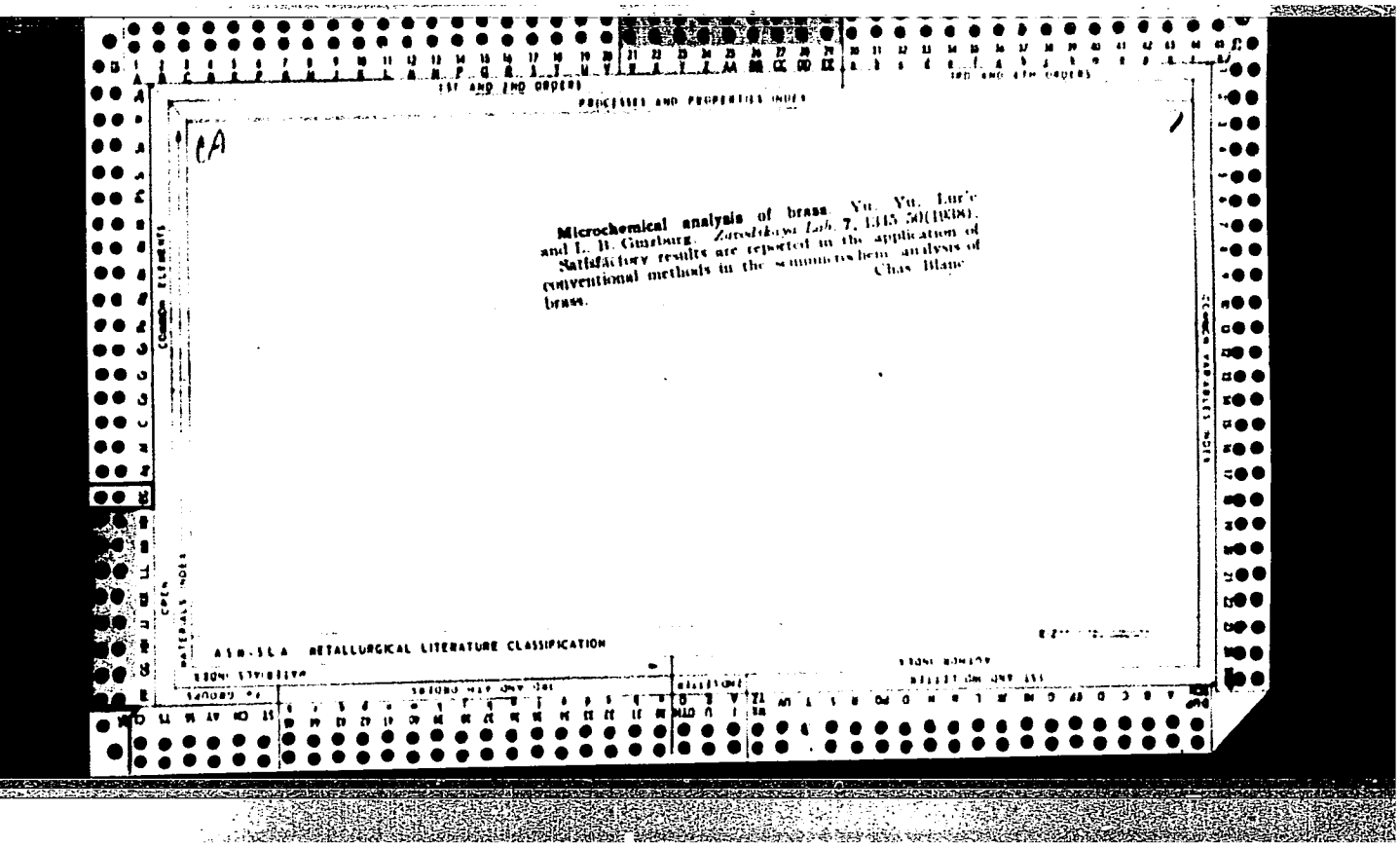


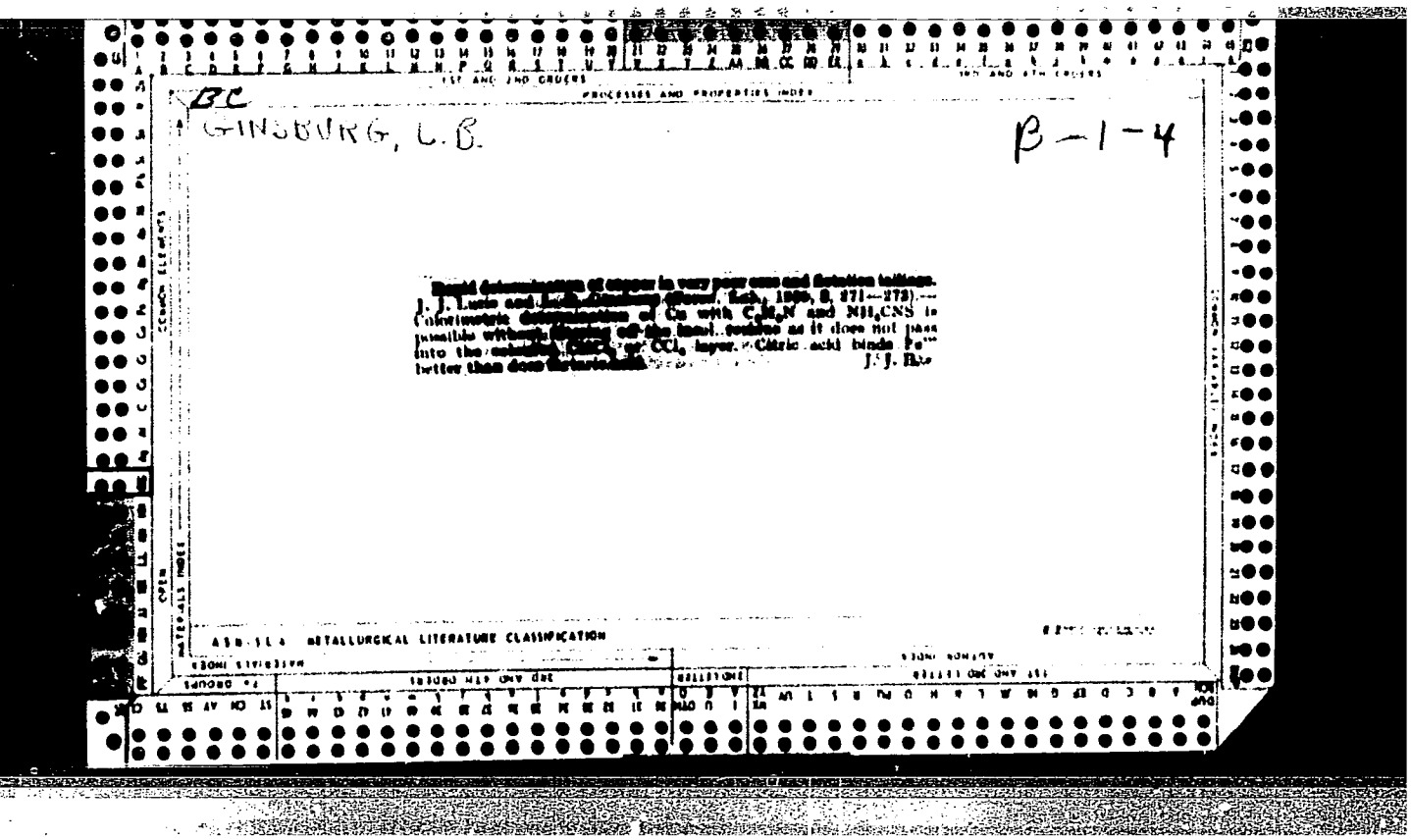
BC

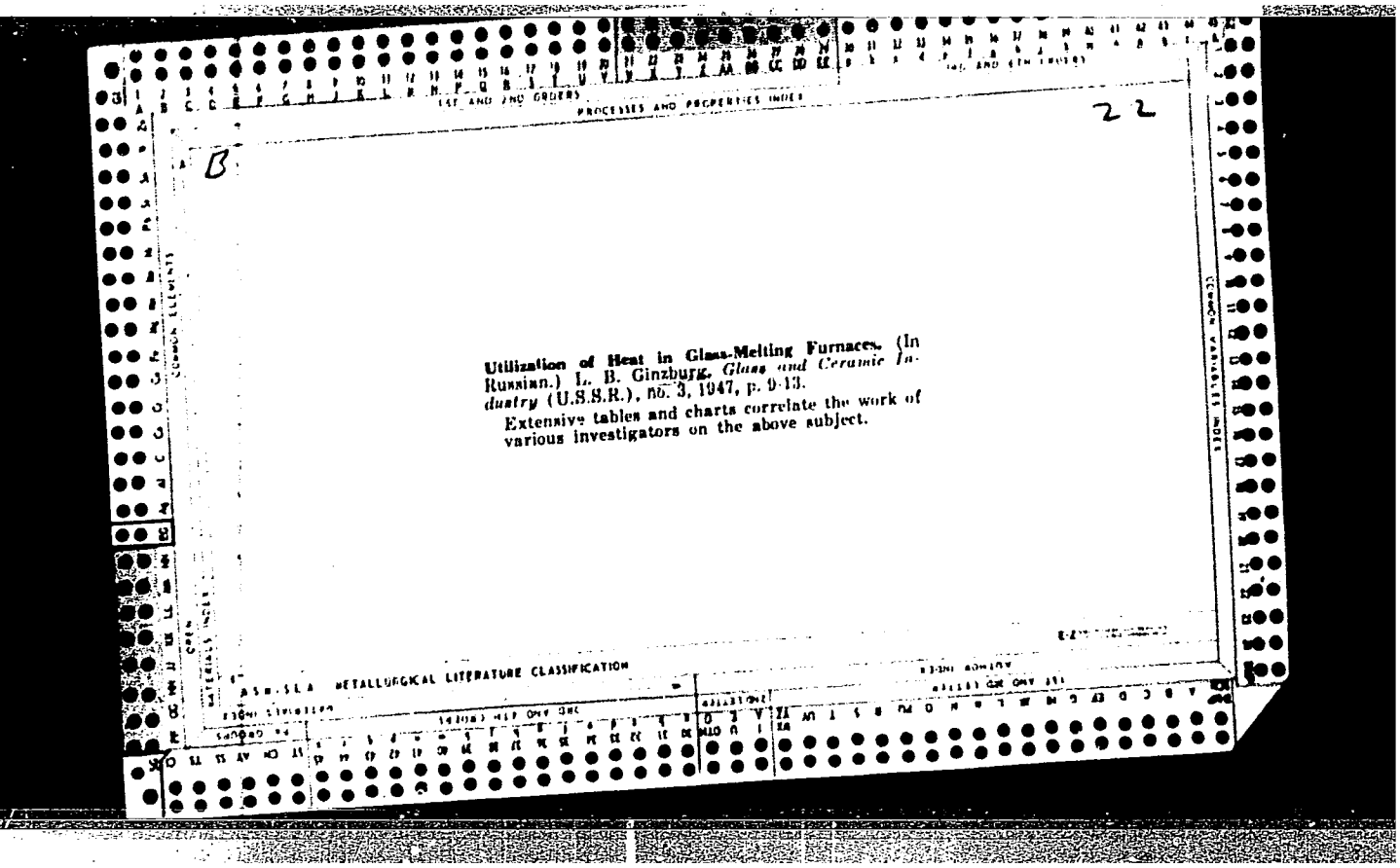
B-I-6

Determination of silica by means of hydroxyquinoline in lead and copper smelting slags. L. B. Gitmanova (Zavod. Lab., 1938, 7, 1041—1043).—0·5 g. of powdered slag is fused with 3 g. of Na_2O_2, the melt dissolved in 400 ml. of H_2O, and 45—50 ml. of conc. HCl are added. The solution is filtered, and the filtrate + washings are diluted to 1 l. Si is determined in 100 ml. of solution by the method of Volinets (A., 1936, 812). R. T.



Microchemical analysis of brass. Yu. Yu. Lur'e and L. B. Ginzburg. *Zavodskaya Lab.* 7, 1315-50(1938). Satisfactory results are reported in the application of conventional methods in the semimicro-chem. analysis of brass. Chas Blanc





Utilization of Heat in Glass-Melting Furnaces. (In Russian.) L. B. Ginzburg. *Glass and Ceramic Industry* (U.S.S.R.), no. 3, 1947, p. 9-13.

Extensive tables and charts correlate the work of various investigators on the above subject.

C.A. Inorganic,

By abs
GINSBURG, L.B.

2163. **Modification of the thiocyanate method of determining molybdenum.** L. B. Ginsburg and L. J. Lurie (*Zavod. Lab.*, 1948, **14**, 538—545; *Metal Abstr.*, 1949, **16**, 298).—The sample (0·1—0·5 g.) is dissolved in aqua regia, 10 ml. of H_2SO_4 (1 : 1) are added, and the solution is heated until SO_3 is evolved. The cooled solution is diluted with 30—40 ml. of water, boiled to dissolve the residue, transferred to a 100-ml. flask, and made up to the mark with water. An aliquot part of the solution containing 0·003—0·06 mg. of Mo is placed in a measuring cylinder, and 35 ml. of HCl (1 : 3), 30 ml. of 20% aq. thiocyanate, 1 g. of KI, and 1 ml. of 1% aq. Na_2SO_3 are added, with shaking after each addition. The solution is made up to the 50-ml. mark with HCl (1 : 3) and placed in a colorimeter for 10 min., using the green-light filter No. 54 (max. transmission 520—560 mμ). The Mo content is determined from a calibration curve obtained by measuring the light-absorption of solutions of known concn. under identical conditions. R. B. Clarke

GINZBURG, L. B.

"A New Version of the Rhodanine Method of Determination of Molybdenum," Zavod. Lab., 14, No. 5, 1948.

State Inst. of Ferrous Metals.

M

94

***Investigation of Colorimetric Methods of Determining Bismuth.** Yu. Yu. Lur'e and L. B. Ginzburg (*Zavod. Lab.*, 1949, **15**, (1), 21–30).—[In Russian]. A comparison is made of the KI, rhodamide, and thiourea methods of colorimetric quantitative determination of Bi in the presence of Pb, Sb, Sn, As, Cu, and Fe. The first method is described briefly, the two others in detail. A violet-light filter with max. permeability in the range 400–470 mμ, corresponding to max. extinction by Bi-complexes, is used in all these methods; the formation of coloured Bi-complexes occurs in 1·2*N*-H_2SO_4, 1·3·5*N*-H_2SO_4, and 0·4–1·2*N*-HNO_3, respectively. The sensitivities of the three methods decrease in the order $8-11-22 \times 10^{-2}$ γ/cm.², where γ is the concentration (mg./l.) × thickness of colorimetered layer (cm.); the ranges of error ± 1% are 2·6–13·5, 6–20, and 5·2–20 γ/cm.², respectively, so that for low concentration only the KI method gives sufficient precision, and for high concentrations only the other two. Coloration occurs in all cases immediately upon addition of the complex-forming reagent and remains stable for 3–4 hr. in the KI, and for 90 min. in the other two methods. Several ways of preventing the formation and/or of taking into account the effects of coloured complexes by Sb, Pb, &c., are mentioned, and the analytical techniques are described in detail. The KI method is the most precise of the three and has the widest range of application, but if Pb is present in large quantities only the thiourea method can be used.—T. O. I.

Dec. 1950

GINZBURG, L. B. PA 169T6

USSR/Chemistry - Analysis, Nickel Aug 50

"Photocolorimetric Method for Determination of Manganese and Chromium in Nickel Electrolyte," L. B. Ginzburg, L. Ya. Livshits, State Sci Res Inst of Nonferrous Metals

"Zavod Lab" Vol XVI, No 8, pp 918-923

Develops quick method for colorimetric determination of small quantities of Mn and Cr in Ni electrolyte based on ability of septavalent Mn and hexavalent Cr to form brightly colored solutions.

FDD 169T6

BTR

7630. **Investigation of Furnaces for the Production of Foam Glass.** (In Russian.) L. B. Ginzburg and N. I. Fateeva. *Steklo i Keramika*, v. 8, Sept. 1951, p. 11–15.

Heat balances were determined for three furnaces. Tables and graphs

3805. **The photocolorimetric determination of germanium with "phenylfluorone" in flue-dusts from lead and zinc production.** L. B. Ginsburg, S. D. Gur'ev and A. P. Shabarova. *Trudy Gos. Nauch.-Issl. Inst. Tsvet. Met.* 1956, No. 378–388. *Ref. Zhur., Khim.*, 1956, Abstr. No. 41660

The reaction between Ge and "phenylfluorone" is studied. Soln. of the compound formed absorb light mainly in the region up to 500 mμ. The mol. extinction coeff. is 77,000 at 490 mμ and 30,500 at 530 mμ. The concn. of Ge which can be measured with $l = 1$ cm at 530 mμ is 1 to 50 μg in 25 ml. A photocolorimetric method for determining Ge, in which "phenylfluorone" is used, has been evolved, which is applicable to products containing considerable quantities of heavy metals. The high sensitivity of the reaction allows the use of 0·1 to 0·2 g of sample with a concn. of Ge ≥0·005 per cent., and 0·5 to 1·0 g of sample with a concn. of Ge <0·005 per cent., which considerably simplifies the analysis. The time for a determination is 3 to 4 hr.

C. D. Korbin

Determination of gallium and indium in the flue dust of the lead, zinc, and copper industries by the fluorescence method. S. D. Gur'ev, L. B. Ginzburg, and A. P. Shilarenkova. *Sbornik Nauch. Trudov Gosudarst. Inst. Tsvetnykh Metal.* 1955, No. 30, 087-97. Abstr. *Khim.* 1956, Abstr No. 1151. [illegible] the interfering elements by extn. of [illegible] after reduction of Fe^{+++}, $SnCl_2$, [illegible] means of metallic Cd. The [illegible] with $CHCl_3$ from a soln. (pH 2.6) using phthalate buffer and 1 ml. of 0.1% soln. of oxine, and detd. by visual fluorometric titration in a dark room, [illegible] detd. in the fumes of Pb and Zn plants. Indium (5-50 γ) is completely extd. from 25 ml. of aq. soln. at pH 3.5 with phthalate buffer, by means of 5 ml. of 0.2% soln. of oxine in $CHCl_3$; it is detd. by comparing the intensity of fluorescence of the ext. with that of a series of standards, without the sepn. of H_2O phase, or by fluorometric titration. The intensity of yellow fluorescence of the ext. in the [illegible] violet increases with the concn. of In [illegible] $CHCl_3$). Interference by small [illegible] can be eliminated by addn. of Na citrate [illegible] fore the addn. of oxine. The effect of small amts. [illegible] eliminated by addn. of $CS(NH_2)_2$. To sep. In from the interfering elements, $InBr_3$ is extd. from 5N HBr with ether in the presence of a reducing agent, and then [illegible] from the ethereal phase with 0.N $HClO_4$ in the presence of an oxidizer.

Andrus N. [illegible]

GINZBURG, L. B.

5

2941* Ion-Exchange Methods in Determination of Thallium and Indium in Products From Processing of Nonferrous-Metal Ores. **Primenenie ionoobmennykh metodov pri opredelenii talliia i indiia v produktakh pererabotki rud tsvetnykh metallov.** (Russian.) L. B. Ginzburg and E. P. Shkrobot. *Zavodskaia laboratoriia*, v. 21, no. 11, 1955, p. 1289-1291.

Separation of Sb and Tl by absorption from solutions of varying acidity or alkalinity. Determination of Tl in Zn and Pb powders, Zn electrolytes, and metallic Cd. Determination by fluorescent method. Tables, graphs.

Gosudarstvenny institut tsvetnykh metallov.

GINZBURG, L. B.

Application of the colorimetric method for determination of the high concentration of molybdenum in concentrates and cobalt and nickel in fused products. L. B. Ginzburg and E. P. Sigerobor. *Analiz Rud Tsvetnykh Metal. i Produktov ikh Pererabotki* 1956, No. 12, 52-69.—Photocolorimeter FEK-M permits detn. of high amts. of Mo, Ni, and Co with error not exceeding 1.3% if optical d. of colored compds. is measured at d. ~0.43. *Detn. of Mo:* Place 0.1 g. ignited concentrate into a 100–150-ml. flask, add 0.5 g. NH_4F and 10–15 ml. aqua regia, evap. to a small amt., add 5 ml. H_2SO_4, and evap. to fumes of SO_3. After cooling the soln., add a few ml. H_2O and repeat the evapn. Then add 40–50 ml. H_2O, heat to boiling, cool, and filter. Transfer soln. to 500-ml. volumetric flask and dil. with H_2O. Place 25 ml. of this soln. into another 250-ml. volumetric flask and dil. with H_2O. Measure 25 ml. of this soln., add 1 ml. $CuSO_4$, 2 ml. alum, 14 ml. 12*N* H_2SO_4, 10 ml. thiourea soln., and mix. After 5 min. add 1 ml. NH_4CNS, dil. to 50 ml., mix again, let stand 10 min., and measure colorimetrically at 500 mμ. *Prepn. of soln. for Ni and Co detn.:* Place 0.1 g. of a fused product into a 150-ml. flask, add 0.5 g. NH_4F, 5 ml. concd. HCl, 5 ml. concd. HNO_3, and evap. to a small vol. Add 10 ml. 12*N* H_2SO_4 and evap. to fumes of SO_3. After cooling soln. add 30–40 ml. H_2O, heat, transfer into a 250-ml. volumetric flask and dil. Place 25 ml. of this soln. into another 250-ml. volumetric flask and dil. *Detn. of Ni:* Place an aliquot of the soln. into a 100-ml. volumetric flask, add 10 ml. 20% Seignette's salt soln., 10 ml. 5% NaOH, 10 ml. 3 % soln. of $(NH_4)S_2O_8$, and 10 ml. 1% soln. of dimethylglyoxime in 5% NaOH soln., dil. with H_2O, and measure d. at 500–50 mμ. *Detn.*

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Ginzburg, L.B.; Shkrobat, ...

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of Co: Place 25 ml. of aliquot soln. into a 100-ml. flask, add 25 ml. H_2O and dropwise 5% NaOH soln. until soln. gets cloudy, then dissolve with 18*N* H_2SO_4. To the clear soln. add 5 ml. 50% NaOAc and boil 3-5 min. Treat the soln. with 10 ml. 0.2% Nitroso-R salt soln. and boil 1 min. To the soln. add 5 ml. HNO_3 to obtain the colored complex of Co, boil one min., transfer into a 100-ml. volumetric flask, dil. with H_2O, and measure d. at 500-60 mμ.

N. Charmandarian

GINZBURG, L.B.; SHKROBOT, E.P.

Separating molybdenum and rhenium by using the ion-exchange chromatographic technique. Sbor.nauch.trud.GINTSVETMET no.12:89-93 '56.
(Chromatographic analysis) (Molybdenum) (MLRA 10:2)
(Rhenium)

GINZBURG, L.B.

USSR/Analytical Chemistry. General Topics. G-1

Abs Jour : Referat. Zhurnal Khimiya, No 6, 1957, 19460.

Author : S.Yu. Faynberg, L.B. Ginzburg.
Inst : -
Title : Experiment of Application of Mathematical Statistical Method to Establish Norms of Permissible Discrepancies of Assay Results.

Orig Pub : Zavod. Laboratoriya, 1956, 22, No 10, 1157-1166.

Abstract : The method of mathematical statistics was used to develop the norms of permissible discrepancies at the assaying of products of the Pb, Zn and Cu industries. 5,820 assays were made for the Pb and Zn industries and 9,140 assays were made for the Cu industry. The following formulae were used for the mathematical treatment of the results: $(a = x_1 + x_2 + x_3 \ldots x_n)/n$; $S = \sqrt{(x_1 - a) + (x_2 - a) + \ldots + (x_n - a)}/n$; C % (relative = 100 σ/a. It was established that the reproduction of results depended little on the assayed

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Abs Jour : Referat. Zhurnal Khimiya, No 6, 1957, 19460.

product and varies depending on the contents of the determined component. The degree of error distribution followed the law of the normal distribution; 70% of the results differ $< \sigma$ from a (arithmetical mean) of the series. The value 2 was proposed as the norm of the permissible discrepancy. It was proved statistically that the ferrocyanide method with the use of an exterior indicator is not applicable at < 1% of Zn; the polarographic method gives better results. The method of the determination of Al_2O_3 by difference gives badly reproducible and often wrong results; it is recommended to use direct methods (weight determination in the form of oxide of phosphate.

Card 2/2 -2-

Colorimetric Methods for the Determination of Trace Elements (cont.)

analysis. Ge is first distilled off in the form of its tetrachloride in the presence of $KMnO_4$ and Na_2SO_3. The weighed test sample is decomposed by fusion with Na_2O_2 in Ni or Fe crucibles. Within the range of 1 - 25 γ in 25 cc, Ge can be determined colorimetrically. The determination of In and Ga is based on the fact that solutions of oxiquinolates of In and Ge in chloroform are fluorescent under ultraviolet rays. To separate Ge it is extracted with ether from a 6N HCl solution in the presence of $TiCl_3$. To separate In its bromide is extracted with ether after which it is determined by ion-exchange chromatography with the SBS type cationite. The sensitivity of the determination of Ga is 0.1 γ, that of the determination of In is 0.5 γ in 3 cc of chloroform. The determination of Re is based on the formation of a complex compound of Re with a thiocyanate in a hydrochloric-acid solution in the presence of $SnCl_2$. Mo impedes this analysis. The determination of 5 γ Re in a 5N HCl solution is feasible in the presence of 50 - 60 γ Mo by measuring its optical density 30 min after the addition of the reagent.

K. K.

Card 2/2

USCOMM-DC-60,919

GINZBURG, L. B.

1611. Determination of small amounts of tin in ores by fluorescent and colorimetric methods. L. B. Ginzburg and E. P. Shevtsov (State Sci. Res. Inst. of Non-ferrous Metals). Zavod. Lab. 1957, 23 (5), 527–533. The use of salts in organic reagents morin and phenylfluorone for fluorescent and colorimetric determination of Sn^{4+} is studied. The most sensitive are the morin fluorescent and the phenylfluorone colorimetric methods. To determine tin in ores, the sample (0.25 to 0.5 g.) is fused with Na_2O_2, the aq. soln. of the melt is neutralized with HCl, 30 ml. of HBr and 60 ml. of dil. H_2SO_4 (1:1) are added, and the soln. is distilled in a current of CO_2; the portion distilling at 116° to 127° is rejected and a further 15 ml. of HBr is added dropwise when the temp. reaches 200°, the temp. being maintained constant. An aliquot portion of the distillate is used for the [illegible]

05713
SOV/32-25-10-2/63

5 (2)

AUTHORS: Ginzburg, L. B., Shkrobot, E. P.

TITLE: Determination of Thallium From the Absorption of the Solution of Its Chloride in Ultraviolet

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 10, pp 1157-1162 (USSR)

ABSTRACT: By means of the spectrophotometer of type SF-4 (with hydrogen lamp), experiments were carried out concerning the applicability of the chlorides and bromides of indium, gallium and thallium to the absorptiometric determination of these elements in nonferrous metal products. The chlorides and bromides of indium and gallium cannot be used for spectrophotometric determinations of these elements since no light absorption occurs in these solutions up to a concentration of elements of about 500 mg/l. In the chlorine and bromine compounds of thallium, a light absorption in the ultraviolet part of the spectrum, in hydrochloric-acid solutions, was ascertained for both forms of valence (Tl^{+} and Tl^{3+}) (Figs 1, 2). In 6n HCl, the absorption maximum of TiCl and $TiCl_3$ lies at a wave length of 244-246 mμ. The molar absorption coefficients of $TiBr_3$ and $TiCl_3$ nearly agree, and are 3 times larger than those of TiBr

Card 1/3

Determination of Thallium From the Absorption of the Solution of Its Chloride in Ultraviolet

and TiCl (Table 1). The chlorides and bromides of Bi, Sb, Sn, Cu, Pb, and Fe also absorb the light in the ultraviolet range so that the thallium has to be extracted before a spectrophotometric determination with ether from a hydrobromic-acid solution of the sample. Experiments concerning the oxidation of thallium into the trivalent form were carried out with bromine, hydrogen peroxide, potassium persulphate, and potassium nitrite, while formalin, phenol and urea were tested for the destruction of the excess reducing agent. Phenol proved to be most favorable. The analytical results obtained by two methods from the chloride- and bromide compounds are in good agreement (Table 2); it is, however, recommended to carry out the determination by use of the chloride compound since the "zero solution" has no light absorption in this case. A course of analysis is indicated. The method was tested by dust samples of the lead-zinc production. The method permits thallium determinations from a sample of 1 g with a content of more than 0.005% Tl. There are 3 figures, 2 tables, and 1 Soviet reference.

05713

Determination of Thallium From the Absorption of the Solution of Its Chloride in Ultraviolet SOV/32-25-10-2/63

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh metallov (State Scientific Research Institute of Nonferrous Metals)

Card 3/3

GINZBURG, L.B.; NOGAYEVA, Z.M.; YUSTUS, Z.L.

Photocolorimetric determination of thallium and germanium in the products of nonferrous metallurgy. Sbor. nauch. trud. Gintsvetmeta no.18:11-17 '61. (MIRA 16:7)

(Nonferrous metals--Analysis)
(Thallium--Analysis)
(Germanium--Analysis)

GINZBURG, L.B.; SHKROBOT, E.P.

Studying absorption spectras of certain compounds of bismuth, antimony, lead, tin, iron, copper, and manganese. Sbor. nauch. trud. Gintsvetmeta no.18:18-36 '61. (MIRA 16:7)

(Metals—Absorption spectra)
(Complex compounds—Absorption spectra)

GINZBURG, L.B.; SHKROBOT, E.P.

Spectrophotometric determination of bismuth in metallic lead and in crude copper. Sbor. nauch. trud. Gintsvetmeta no.18:53-55 '61.

(Bismuth—Spectra) (Lead—Spectra)
(Copper—Spectra)

GINZBURG, Lev Davydovich; IVANOV, B.N., inzh., red.; FREGER, D.P., red.izd-va; BELOGUROVA, I.A., tekhn.red.

[Small transformers for the filaments of high-voltage thyratrons and gas-discharge tubes] Malogabaritnye transformatory pitaniia nakala vysokovol'tnykh tiratronov i gazotronov. Leningrad, 1961. 17 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Pribory i elementy avtomatiki, no.14) (MIRA 14:12)

(Electric transformers)

GINZBURG, L.G.

Separation of molybdenum from rhenium by the ion exchange chromatographic method

The column was washed with [illegible] wash-water was evapd. to [illegible] and Re was detd. by the thiocyanate reaction. The column was regenerated by washing first with 2N HCl and then distd. H_2O until the test for Cl⁻ was neg.

[illegible] Chromatography

S/[redacted]1/000/019/069/085
B117/B110

11,9000

AUTHOR: Ginzburg, L. G.

TITLE: Effect of lubricating oil on scale formation in Diesel engines

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 19, 1961, 424, abstract 19M193 (Inform. sb. Tsentr. n.-i. in-t morsk. flota, no. 47. 1960, 49 - 57)

TEXT: The cylinder emulsion oils synthesized at the VNIINP were tested in a two-cylinder, two-stroke engine type 2[redacted]16.5/20 (2 DSP 16.5/20), 50 HP at 750 rpm, operating with sulfur fuel (mixture of 65 % export mazout, trademark "Yu" ("Yu") and 35 % Diesel fuel with 2.53 % sulfur). The test showed that the oil samples produced in the USSR have properties preventing scale formation and guaranteeing the purity of the Diesel engine piston group even during operation with highly sulfurous fuels. This is mainly due to the presence of a considerable amount of alkaline additives in aqueous phase neutralizing the primary oxydation products of the oil and preventing the formation of tars and other polymeric products.

Card 1/2

S/081/61/000/019/069/085
Effect of lubricating oil on scale formation... B117/B110

Emulsion oils are recommended for lubricating low-speed Diesel engine cylinders particularly when, during the use of customary cylinder oils (motor oil, automobile lubricant AK 15 (AK 15)), the cylinders are soiled by scale and varnish. It is pointed out that in a Diesel engine comprising a precombustion chamber the thickness of the scale layer in the combustion chamber does not depend on the kind of fuel and oil used.
[Abstracter's note: Complete translation].

Card 2/2

GINZBURG, L.G.

Lubricants for modern low-speed marine diesels. Inform. sbor. TSNIIMF no.73 Tekh. ekspl. mor. flota no.13:3-17 '62. (MIRA 16:3)
(Marine diesel engines—Lubrication)

GINZBURG, L.G.

Service testing of the D-11 lubricant with a VNIINP-360 additive on V111-1hR216/310 engines. Inform. sbor. TSNIIMF no.73. Tekh. ekspl. mor. flota no.13:67-84 '62. (MIRA 16:3)
(Lubrication and lubricants--Testing)

GINZBURG, L.G.

Testing the D-11 lubricant with a DF-1 additive on the PSV55 and A Görlitz engines. Inform. sbor. TSNIIMF no.96. Tekh. ekspl. mor. flota no.23:18-29 '63 (MIRA 18:1)

GINZBURG, L.I.

Lowering the weight of the square meter of paper is an urgent problem. Bum. prom. 36 no.11:9-10 N '61. (MIRA 15:1)

1. Glavnyy inzh.fabriki "Komsomolets".
(Paper)

GINZBURG, L.I., prof.

Science at the service of the bast fiber industry. Tekst. prom. 23 no.12:16-20 D '63. (MIRA 17:1)

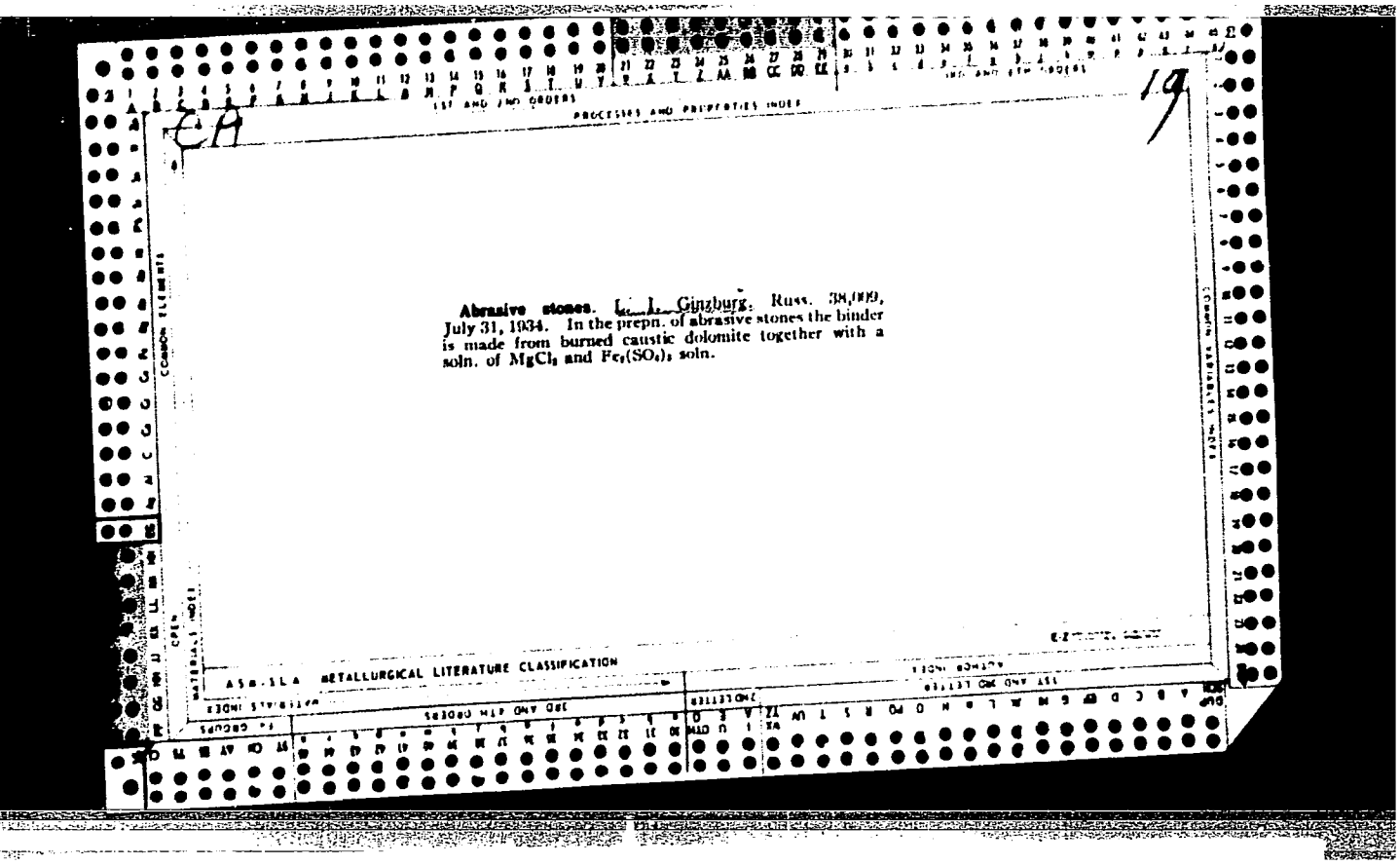
1. Zamestitel' direktora po nauchnoy rabote TSentral'nogo nauchno-issledovatel'skogo instituta lubyanykh volokon (TsNIILV).

GINZBURG, L.I.

Tomography of the pulmonary artery in tuberculosis of the lungs.
Probl. tub. 41 no.10:58-62 '63. (MIRA 17:9)

GINZBURG, LEV IL'ICH.

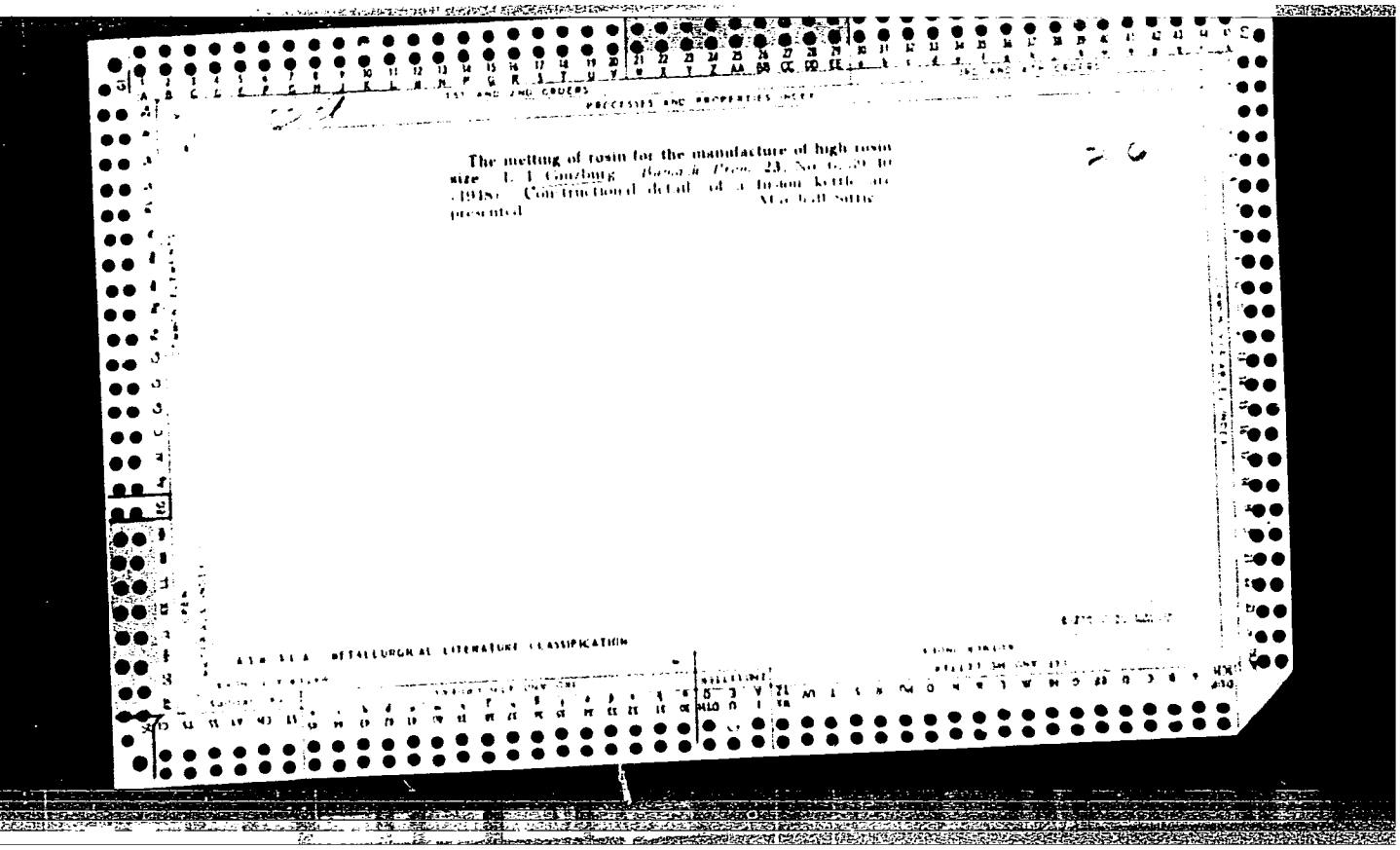
UPRAVLENIYE KHOZYAYSTVOM V PERVYYE GODY PROLETARSKOY DIKTATURY. (MOSKVA, SOVETSKOYE ZAKONODATEL'STVO. 1933 83 P.



[redacted], L. L.

Shape casting of alloys and nonferrous metals Moskva, Glav. red. lit-ry po tsvetnoi metallurgii, 1935.
Collation of the original. 159 p. Mic 53-197.

Microfilm TS-4



The melting of rosin for the manufacture of high rosin size. I. J. Conzbuig. *Paper Trade J.*, 23, No. 6, 39 to 40 (1918). Constructional detail of a fusion kettle and [illegible] are presented.

L. I. GINZBURG

PA 190T55

USSR/Engineering - Heat Engineering Apr 51

"Modeling of Forced Ventilation in Buildings With a Heating System," L. I. Ginzburg

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 4, pp 537-549

Developed equation of ventilation process for mean values of parameters of this process from system of eqs of math physics. Corroborated that modeling theory, developed in works by Acad M. V. Kirpichev and his school, may be applied to ventilated vols with heat loss in them. Establishes

190T55

USSR/Engineering - Heat Engineering (Contd) Apr 51

method for calcg "air oases" and suggests how to attain optimum temp at min heat exchange. Submitted by Acad M. V. Kirpichev.

190T55

GINZBURG L.M.

POGOSOV, A.G.; GINZBURG, L.M.

Construction of a tall building on Smolensk Square. Gor.khoz. Mosk. 25 no.12:12-19 D '51. (MLRA 7:11)

1. Zamestitel' ministra stroitel'stva predpriyatiy tyazheloy industrii. (f.Pogosov) 2.Glavnyy inzhener tresta "Osobstroy" (for Ginzburg). (Moscow--Buildings) (Buildings--Moscow)

1. GINZBURG, L. I.

2. USSR (600)

3. Wood pulp industry

4. Technical and economic indexes in pulp production.
Bum.prom. 27 No. 6 - 1952.

9. Monthly List of Russian Acessions, Library of Congress, February, 1953. Unclassified.

GINZBURG, L. I.

Paper - Specifications

Shortcomings of some paper standards. Bum. prom. 28 no. 1, 1953

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

GINZBURG, L.I., glavnyy inzhener.

Some technical and economic indices of pulp production. Bum.prom. 28 no.8: 28 Ag '53. (MLRA 6:7)

1. Okulovskiy tsellyulozno-bumazhnyy kombinat. (Wood-pulp industry)

GINZBURG, I.M., glavnyy inzhener; FEL'DMAN, I.Ya., glavnyy mekhanik.

Complete mechanization of transport operations in building a skyscraper.
Mekh. trud. rab. 7 no.11:30-35. (MLRA 6:12)

1. Trest Osobstroy.
(Transportation, Automotive) (Hoisting machinery) (Skyscrapers)

GINZBURG, L.I.

GINZBURG, L.I., dotsent, kandidat tekhnicheskikh nauk.

Mathematical description of ventilation processes of heat exchange in buildings. Trudy Stroi.inst.Mosgorispolkoma no.4: 9-15 '53. (MLRA 8:3)
(Ventilation) (Heating)

GINZBURG, L.I.

Economizing fiber. Bum.prom. 29 no.11:26-27 N '54. (MLRA 8:1)

1. Glavnyy inzhener Okulovskogo tsellyulozno-bumazhnogo kombinata.
(Paper industry)

GINZBURG, L.I.

Continuous grinding in beater rolls. Bum.prom.31 no.4:19-21 Ap '56.
(MLRA 9:7)

1.Glavnyy inzhener Okulovskogo tsellyulozno-bumazhnogo kombinata.
(Woodpulp industry) (Papermaking machinery)

GINZBURG, L.I.

GINZBURG, L.I., inzhener; ROZENTAL', A.Ya., inzhener.

Fastening lightning protective cables to electric transmission line poles. Elek.sta. 28 no.9:93 S '57. (MIRA 10:11)
(Lightning protection)

GINZBURG, L.I.

Paper weight reduction and number of meters manufactures. Bum. prom. 32 no.3:22 Mr '57. (MLRA 10:4)

1. Glavnyy inzhener Okulovskogo tsellyulozno-bumazhnogo kombinata.

(Paper industry)

GINZBURG, L.I., inzh.; ROZENTAL', A.Ya., inzh.

Use of devices recording the operations of valve-type arresters. (MIRA 11:3)
Elek. sta. 29 no.2:89 F '58.
(Counting devices)

GINZBURG, L.I.

Establishing the scale of a model used in studying ventilation in rooms with excessive heat emission. Vod. i san. tekh. no.11:13-15 N '59. (MIRA 13:3)

(Factories--Heating and ventilation)
(Engineering models)

GINZBURG, L.I.

Converting for application to natural conditions the results of model studies on the ventilation of rooms with excessive heat losses. Vod. i san. tekh. no.10:20-22 O '60. (MIRA 13:11)
(Ventilation)

GINZBURG, L.I., kand.tekhn.nauk

Changes in the mean spatial temperature of rooms with excessive heat emission due to an irregular ventilation process. Vod.i san. tekh. no.4:26-27 Ap '62. (MIRA 15:8)
(Ventilation)

GINZBURG, L.I., kand.tekhn.nauk

Nomograms for determining values of the Gr-Pr complex in using models to study ventilation processes. Vod. i san. tekh. no.7: 5-6 Jl '62. (MIRA 15:9)
(Ventilation--Research)

GINZBURG, L.I.

Temperature conversion in model studies of room ventilation.
Vod. i san. tekh. no.7:7-8 Jl '61. (MIRA 14:7)
(Ventilation)

GINZBURG, L.I., kand.tekhn.nauk

Temperature characteristics of a room. Vod.i san.tekh. no.4: 30-31 Ap '63. (MIRA 16:4)
(Ventilation)

GINZBURG, L.I., kand. tekhn. nauk

Determining the geometric scale in modeling the ventilation of buildings. Vod. i san. tekh. no.12:31-32 D '61
(MIRA 18:1)

GINZBURG, L.K., inzh. mostopoyezda; LEITSIN, G.L., inzh. mostopoyezda.

Foundations of supports of an automobile bridge on bored pilings with broadened base. Transp. stroi. 13 no.1:22-24 Ja '63 (MIRA 18:2)

SUKHANOVA, Z.M. (Gomel'); GINZBURG, L.M. (Gomel')

Experience in the organization of production line operations. (MIRA 14:3)
Shvein.prom. no.1:25-27 Ja-F '61.
(Assembly-line methods) (Gomel'--Clothing industry)

S/191/62/000/004/010/017
B110/B138

AUTHORS: Shcherbakov, V. M., Mazur, S. V., Ginzburg, L. N.

TITLE: Strength properties of glass plastics. Strength and elasticity of glass plastics under static and impulsive loads

PERIODICAL: Plasticheskiye massy, no. 4, 1962, 33-43

TEXT: The results of tensile, and static and impact bending tests are given, together with analytical methods of determining ultimate tensile stress and the modulus of elasticity. Epoxy phenol resin shows least shrinkage on hardening, good adhesion on glass cloth, no hair line cracks, and low internal stresses. Good tensile strength was found in plastics with satin or twisted glass cloth T_1 (T_1). This is because the filler is better impregnated and the bond between the layers of glass cloth is strengthened. Tensile rupture of glass plastics takes place in three stages: (1) the bond between resin and glass filler is destroyed, and spalling begins at the resin-glass interface, (2) the resin starts peeling off, and the filler takes over the whole load, (3) the glass cloth is

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Strength properties of glass...

ruptured. $\sigma F = \sigma_g F_g + \sigma_r F_r$ holds, where σ = stress in the glass plastic, σ_g = stress in the glass filler, σ_r = stress in the resin, F = total cross section area, F_g = area of glass filler cross section, F_r = area of resin cross-section. The ultimate tensile strength (UTS) is

$$\sigma = \sigma_{cM} + \gamma_{cM} \frac{0,5(\beta\sigma_{cT} - \sigma_{cM}) - \sigma_{cM}}{\gamma_{cM} + \gamma_{cT}\frac{R}{1-R}} \qquad (5)$$

where σ = UTS of glass plastic, σ_{cM} = UTS of resin, σ_{cT} = UTS of elementary glass fiber, R = resin content by weight, β = strength utilisation factor of elementary glass fiber, γ_{cM} = specific gravity of hardened resin, γ_{cT} = specific gravity of glass fiber (~2.5-2.6). For glass plastics reinforced with unidirectional fiber:

$$\sigma = \frac{\gamma_{cM}(\beta\sigma_{cT} - \sigma_{cM})}{\gamma_{cM} + \gamma_{cT}\frac{R}{1-R}} + \sigma_{cM} \qquad (6)$$

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Equations (5) and (6) are however, only approximate, as a lot of factors influencing strength are not taken into account. In glass plastics with satin woven glass cloth, the different layers are well interlinked, load is distributed between resin and filler, and the damaging glass-glass contact is avoided. Production under pressure gives 10-35 % higher bending strength in phenol and polyester resins than does vacuum molding, and 40-55 % in epoxy phenol plastics. Resin content has a decisive influence on bending strength of glass plastics: at 14.6 % UTS in bending was 162 kg/cm^2, and at 28.8 %, 1645 kg/cm^2. In static bending tests of epoxy phenol glass plastics, no fracture occurred at the interface at 150-200 kg/cm^2. The UTS in bending is

$$\sigma = 1/I \sum_{i=1}^{n} \sigma_i I_i,$$

where σ_i denotes the stress in the components of the glass plastic and I_i are the moments of inertia of their cross sections. Although the UTS of the best glass plastics is almost as high as that of steel, the modulus of elasticity is only 1/10.

Card 3/5

Strength properties of glass...

$$E = 1/F \sum_{i=1}^{n} E_i F_i$$

defines the modulus of elasticity, F denotes cross sectional area of the test piece, F_i the cross sectional area of the individual components, E_i their moduli of elasticity. The modulus of elasticity and impact strength in bending (pendulum velocity = 3.5 m/sec) increase with the thickness of the glass cloth. Good values were obtained with braided small-cell cloth and with satin weave. The deformation of glass plastics obeys Hook's law right up to rupture. Quantitative estimates of strength and deformation were made to assess suitability for engineering purposes. Approximate values for the maximum dynamic deflection f_d and impact toughness in bending strength σ_d are found from the amount of work dissipated in destruction. $f_d = f_{st} + \sqrt{f_{st}^2 + 2hf_{st}}$, where $f_{st} = Pl^3/48EI$ = static deflection under load P and $\sigma_d = 3\sqrt{2AE/b\delta l}$, where E is the modulus of elasticity, A is the work of destruction, δ is sample thickness, b is

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sample width, and l is the span width. There are 5 figures and 7 tables. The most important English-language reference reads as follows: F. N. McGarry, Plast. Techn., No. 2, 46 (1959).

Card 5/5

X

"High Stretch on Ring-Spinning Frames for Wet Spinning of Flax." Thesis for degree of Dr. Technical Sci. Sub. 4 Feb 49, Moscow Textile Institute.

Summary 82, 18 Dec 52, Dissertations Presented For Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya, Moskva, Jan-Dec 1949.

GINZBURG, L. N.

Application of electric deformation measuring instruments in textile technology. Tekst. prom., No 2, 1952.

GINZBURG, L.N.

PIKOVSKIY, Genrikh Iosifovich; SAL'MAN, Semen Il'ich; GINZBURG, Lev Natanovich; GAL'BURT, Mark Yakovlevich; LIOZNOV, A.G., redaktor; SHOLYAKOVA, A.V., tekhnicheskiy redaktor

[Circular looms for wet weaving of flax] Kol'tsevye mashiny dlia mokrogo priadeniia l'na. Moskva, Gos. nauchno-tekhn. izd-vo Ministerstva promyshlennykh tovarov shirokogo potrebleniia SSSR, 1954. 155 p. (MIRA 8:4)
(Looms) (Flax)

GINZBURG, L.N., professor.

Scientific achievements in the service of industry. Tekst.prom. 14 no.11:7-11 N '54. (MLRA 8:1)

1. Zamestitel' direktora TsNIILV po nauchnoy rabote.
(Textile research)

GINZBURG, L.N., professor

Some problems of shape and tension of yarn in the balloon.
Tekst.prom. 15 no.6:23-25 Je '55. (MLRA 8:7)
(Cotton spinning)

GINZBURG, L.N., professor.

Trends of technical progress in the linen industry. Tekst.prom. 16 no.5:9-12 My '56. (MLRA 9:8)

1. Zamestitel' direktora TSentral'nogo nauchno-issledovatel'skogo instituta l'nyanogo volokna po nauchnoy rabote.
(Linen)

KOVNER, Semen Samsonovich, professor; GINZBURG, L.N., retsenzent; VAYNBERG, M.M., retsenzent; ARKHANGEL'SKIY, S.S., redaktor; KOGAN, V.V., tekhnicheskiy redaktor

[Mathematical methods of studying the movement of fibers in the process of drafting] Matematicheskie metody issledovaniia dvizheniia volokon v protsesse vytiagivaniia. Moskva, Gos.n auchno-tekhn. izd-vo lit-ry po legkoi promyshl., 1957. 279 p. (MLRA 10:9)

1. Moskovskiy tekstil'nyy institut (for Kovner)
(Spinning)

GINZBURG, Lev Natanovich, professor, doktor tekhnicheskikh nauk; SAL'MAN, Semen Il'ich, kandidat tekhnicheskikh nauk; TARASOV, Sergey Vladimirovich, kandidat tekhnicheskikh nauk; LAZAREVA, Sof'ya Yefremovna, kandidat tekhnicheskikh nauk; FRIDMAN, Boris Nikolayevich, kandidat tekhnicheskikh nauk; LIFSHITS, Izrail' Yakovlevich, inzhener; SOBOLEV, G.A., retsenzent; SOKOLOVA, V.Ye., redaktor; MEDVEDEV, L.Ya., tekhnicheskiy redaktor

[Handbook on flax spinning] Spravochnik po priadeniiu l'na. Pod red. L.N.Ginzburga. Moskva, Gos.nauchno-tekhn.izd-vo M-va legkoi promyshl. SSSR, 1957. 667 p. (MLRA 10:8)

1. Moscow. TSentral'nyy nauchno-issledovatel'skiy institut promyshlennosti lubyanykh volokon.
(Linen) (Spinning)

GINZBURG, L.N.; VOLKOVA, Ye.A.

Introducing an efficient outlay for cutting fabrics.
Leg. prom 17 no.1:46 Ja '57. (MLRA 10:2)

(Gomel'--Clothing industry)
(Garment cutting)

GINZBURG, L.N.

GINZBURG, L.N., doktor tekhn.nauk, prof.

Science and technology in the bast fiber industry. Tekst.prom.17 no.11:53-57 N '57. (MIRA 10:12)

1. Zamestitel' direktora TSentral'nogo nauchno-issledovatel'skogo instituta lubyanykh volokon.
(Bast--Testing) (Duck (Textile)) (Textile research)

ZOTIKOV, V.Ye.; prof., doktor tekhn.nauk; BUDNIKOV, I.V.; TRYKOV, P.P.; GINZBURG, L.M., retsenzent; KARPOV, L.I., retsenzent; ORLOVA, Z.M., retsenzent; TALEPOROVSKAYA, V.V., retsenzent; FINKEL'SHTEYN, I.I., retsenzent; KOPELEVICH, Ye.I., red.; SHAPENKOVA, T.A., tekhn.red.

[Fundamentals of the spinning of fabrics] Osnovy priadeniia voloknistykh materialov. Pod red. V.E.Zotikova. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po legkoi promyshl., 1959. 506 p. (MIRA 12:11)

1. Kafedra priadeniya khlopka Ivanovskogo tekhnologicheskogo instituta (IvTI) (for Karpov, Orlova, Taleporovskaya, Finkel'shteyn).
(Spinning)

GINZBURG, Lev Natanovich, prof.; DVERNITSKIY, Iosif Melent'yevich, inzh.; TARASOV, S.V., retsenzent; SLUTSKOV, I.K., retsenzent; FEYMAN, I.I., retsenzent; LYASHENKOV, I.K., retsenzent; VOLGIN, A.A., retsenzent; GORDEYCHIK, G.M., red.; SOKOLOVA, V.Ye., red.; MEDVEDEV, L.Ya., tekhn.red.

[Spinning of bast fibers and the manufacture of twisted products] Priadenie lubianykh volokon i proizvodstvo kruchenykh izdelii. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po legkoi promyshl., 1959. 549 p. (MIRA 12:8)

1. Kafedra pryadeniya l'na KTI (for Slutskov, Feyman, Lyashenkov, Volgin).

(Bast) (Cordage)

DOBYCHIN, Vadim Petrovich; DMITRIYEVA, A.I., red.; GINZBURG, L.N., red.

[Problems in the theory and methodology of research in textile technology] Voprosy teorii i metodologii issledovanii v tekstil'noi tekhnologii. Moskva, Izd-vo nauchno-tekhn.lit-ry RSFSR, 1960. 427 p. (MIRA 14:2)

(Textile industry)

GINZBURG, L.N., prof., doktor tekhn. nauk, red.; SOKOLOVA, V.Ye., red.; SHVETSOV, S.V., tekhn. red.

[Manual on the spinning of rough hemp fibers and manufacture of twisted articles] Spravochnik po priadeniiu grubykh lubianykh volokon i proizvodstvu kruchenykh izdelii. Pod red. L.N.Ginzburga. Moskva, Izd-vo nauchno-tekhn.lit-ry RSFSR, 1961. 526 p. (MIRA 14:12)

(Spinning) (Rope)

GINZBURG, L.N., prof.

Action of hackle sheets on the fibers. Tekst.prom. 21 no.3:26-31 Mr '61. (MIRA 14:3)
(Bast) (Carding machines)

GINZBURG, L.N., doktor tekhn.nauk; FRIDMAN, B.N., kand.tekhn.nauk

Some problems of the drawing theory in connection with high drafts and spinning from the sliver. Tekst.prom. 21 no.5:16-23 My '61. (MIRA 15:1)

(Spinning machinery)

GINZBURG, L.N., doktor tekhn.nauk; FRIDMAN, B.N., kand.tekhn.nauk

Some problems of the drafting theory in cases of high drafts and of spinning from the silver. Tekst.prom. 21 no.6:25-28 Je '61. (MIRA 15:2)

(Spinning)

SEVOST'YANOV, Aleksey Grigor'yevich; GINZBURG, L.N., retsenzent; LEVINSKIY, V.P., retsenzent; AKSENOVA, I.I., red.; KNAKNIN, M.T., tekhn. red.

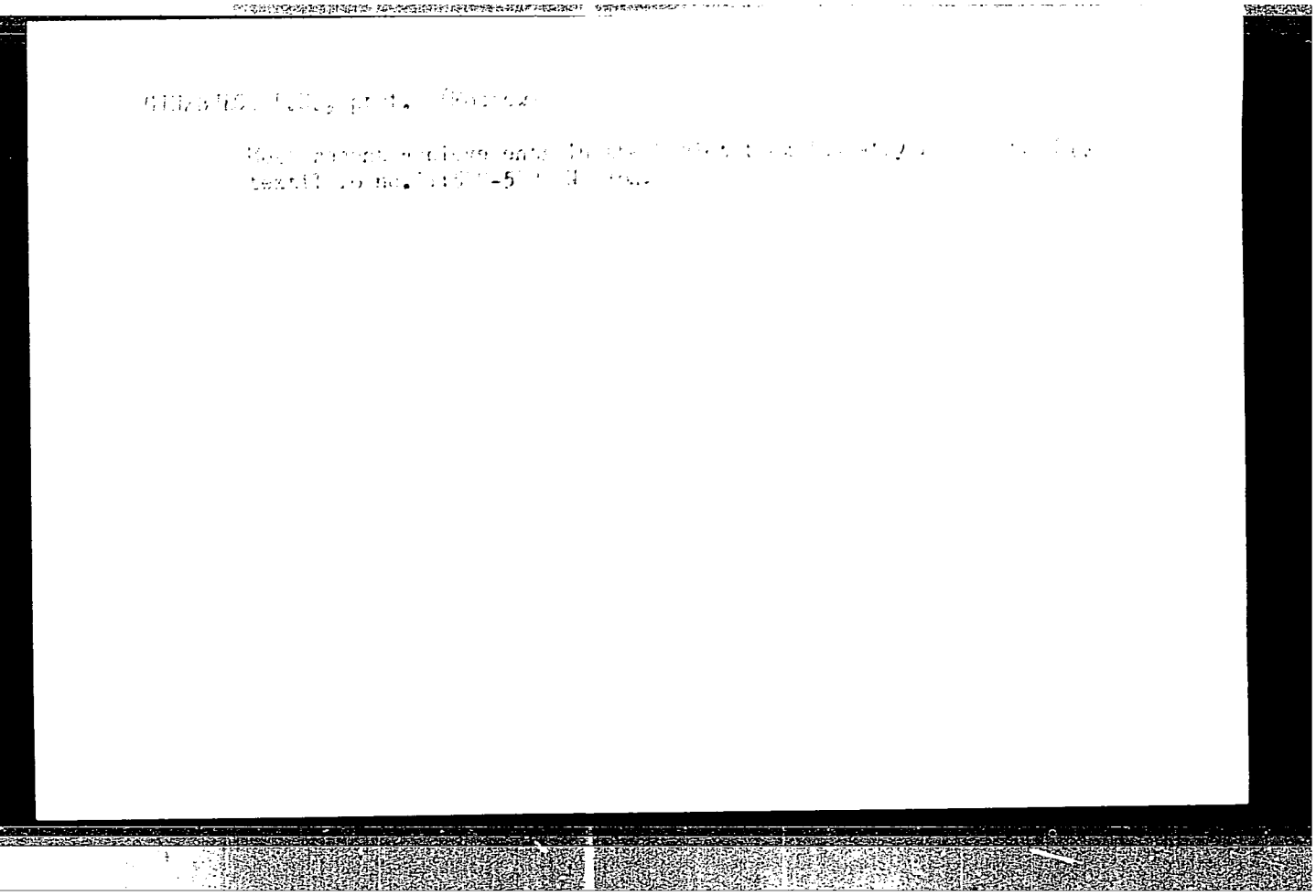
[Methods for analyzing the irregularities of spinning products; characteristics of random functions and their application] Metody issledovaniia nerovnoty produktov priadeniia; kharakteristiki sluchainykh funktsii i ikh primenenie. Moskva, Rostekhizdat, 1962. 385 p. (MIRA 15:7)

(Spinning)

GINZBURG, L.N., prof.; KHAVKIN, V.P., nauchnyy sotrudnik

Determining the probable characteristics of yarn tension in centrifugal spinning as dependent on the probable characteristics of yarn mass distribution along its length. Tekst. prom. 24 no.4: 16-20 Ap '64. (MIRA 17:6)

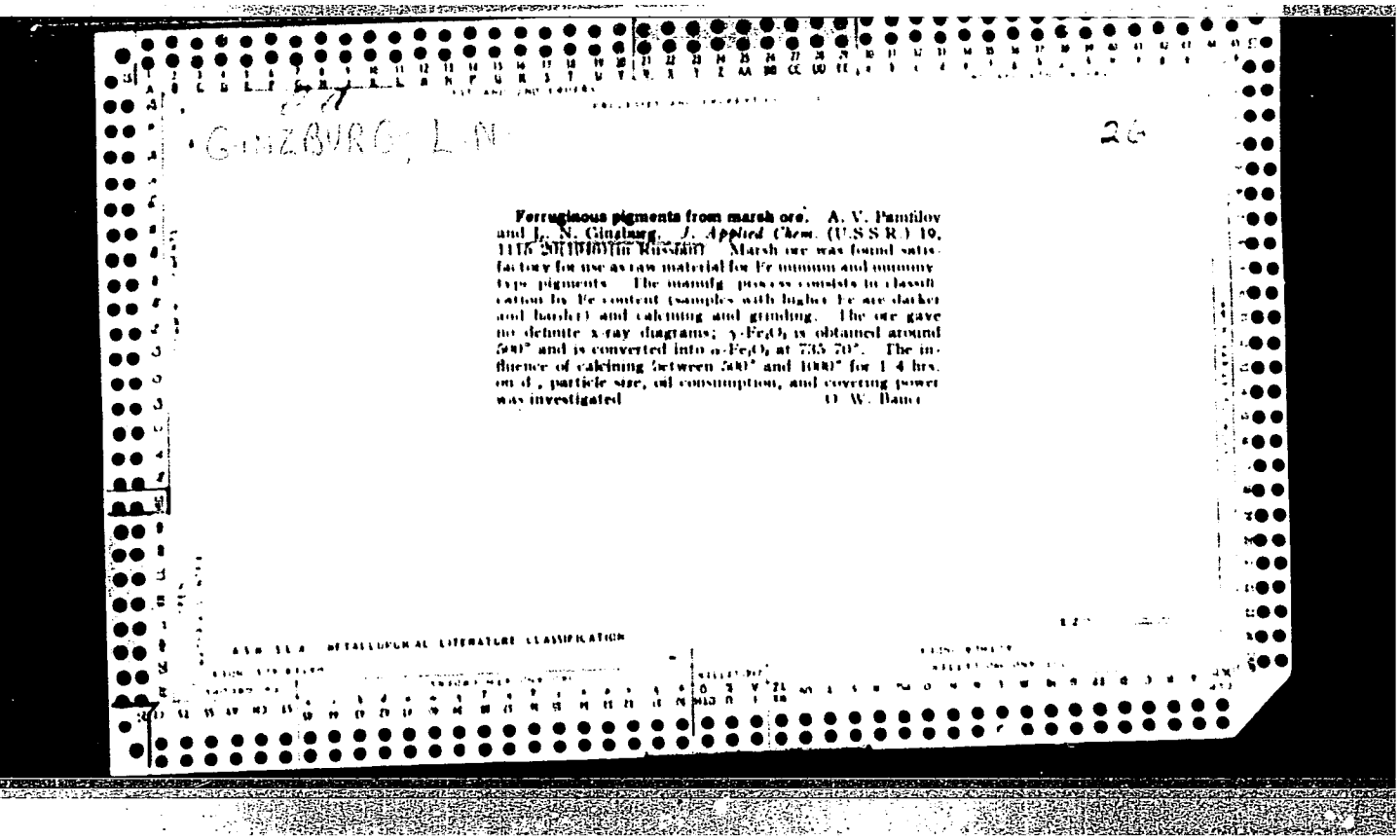
1. TSentral'nyy nauchno-issledovatel'skiy institut promyshlennosti lubyanykh volokon (TsNIILV) (for Ginzburg). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut tekstil'nogo i legkogo mashinostroyeniya (VNIITekmash) (for Khavkin).



GINZBURG, Lev Natanovich; ANOSOV,V.N.,retsenzent; SOKOLOVA,V.Ye., red.
[Centrifugal spinning of bast fibers] TSentrifugal'noe priadenie lubianykh volokon. Moskva, Legkaia industriia, 1965. 230 p. (MIRA 18:2)

SHCHERBAKOV, V.M.; MAZUR, S.V.; GINZBURG, L.N.

Strength of glass reinforced plastics. Strength and elasticity of glass reinforced plastics under the effect of static and impact loads. Plast.massy no.4:33-43 '62. (MIRA 15:4)
(Glass reinforced plastics--Testing)



GINZBURG, L.N.

26

Ferruginous pigments from marsh ore. A. V. Pantilov and L. N. Ginzburg. *J. Applied Chem.* (U.S.S.R.) 19, 1116-20(1946)(in Russian). Marsh ore was found satisfactory for use as raw material for Fe mumm and mummy type pigments. The manufg. process consists in classification by Fe content (samples with higher Fe are darker and harder) and calcining and grinding. The ore gave no definite x-ray diagrams; γ-Fe_2O_3 is obtained around 500° and is converted into α-Fe_2O_3 at 735-70°. The influence of calcining between 500° and 1000° for 1-4 hrs. on d., particle size, oil consumption, and covering power was investigated. O. W. Bauer

1, GINZBURG, L. N. Eng.

2. USSR (600)

4. Peat Industry

7. Measures against the freezing of peat deposits, and methods of keeping sections of lump peat production free from frost. Torf. prom. 29 no. 10. '52.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

RUMYANTSEV, V.Ya., inzhener; GINZBURG, L.N., inzhener; RYABCHIKOV, M.Ya., inzhener; ANDRZHEYEVSKIY, A.M., inzhener.

Mechanization of block peat production during 1953 by enterprises of the Main Administration of the Peat Industry. Torf.prom. no.2: 6-15 '54. (MLRA 7:3)

1. Petrovsko-Kobelevskoye torfopredpriyatiye (for Rumyantsev). 2. Sverdlovskiy torfotrest (for Ginzburg). 3. Chernoramenskiy torfotrest (for Ryabchikov). 4. Orekhovskove torfopredpriyatiye (for Andrzheyevskiy). (Peat industry)

KASHCHENKO, Petr Mikhaylovich; KHOROSHAVIN, Nikolay Ivanovich; GINZBURG, L.N., red.; VORONIN, K.P., tekhn. red.

[Winning block peat for fuel with the TEMP excavator] Dobycha kuskovogo torfa na toplivo ekskavatorami TEMP. Moskva, Gos. energ. izd-vo, 1958. 104 p. (MIRA 11:8)
(Peat)

ALEKSEYEV, Ye.T.; APENCHENKO, S.S.; BASOV, A.P.; BAUSIN, A.F.; BERSHADSKIY, L.S.; VELLER, M.A.; GINZBURG, L.N.; GUSEV, S.A.; DANILOV, G.V.; DOLGIKH, M.S.; DRUZHININ, N.N.; YEFIMOV, V.S.; ZAVADSKIY, N.V.; IVASHECHKIN, N.V.; KARAKIN, F.F.; KUZHMAN, G.I.; LOBANOV, S.P.; MERKULOV, Ya.V.; NIKODIMOV, P.I.; PANKRATOV, N.S.; PYATAKOV, L.V.; RODICHEV, A.F.; SMIRNOV, M.S.; STRUKOV, B.I.; SAVOCHKIN, S.M.; SAMSONOV, N.N.; SINITSYN, N.A.; SOKOLOV, A.A.; SOLOPOV, S.G.; CHERLYSHEV, S.G.; SHCHEPKIN, A.Ye.

Fedor Nikolaevich Krylov; obituary. Torf. prom. 35 no.6:32 '58.
(MIRA 11:10)
(Krylov, Fedor Nikolaevich, 1903-1958)

GINZBURG, L. P.

USSR/Astronomy - Graviational Waves, Stability

1 Oct 51

"Stability of Astronomical Systems," D. D. Ivanenko, A. M. Brodskiy, L. P. Ginzburg, Moscow State U imeni Lomonosov

"Dok Ak Nauk SSSR" Vol LXXX, No 4, pp 565-567

The discussion of Einstein's gravitational field can in a linear approximation be reduced by analogy to a discussion of other wave fields. In this report the authors extend this analogy and introduce the concept of temp and thermal radiation of a weak gravitational field. The derived representations are then applied for the purpose of clarifying problems of stability of certain astronomical systems. Crit temps are found for the various planets and the sun. Submitted 4 Aug 51 by Acad V. G. Fesenkov.

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BOYCHENKO, V.I.; GINZBURG, L.P.

Gas-air burner with increased parameters. Gaz. prom. 8 no.7: 36-38 '63. (MIRA 17:8)

OVANESOV, M.G.; GINZBURG, L.S.

Geology of the D1 horizon in the Shkapovo field in connection with its development. Izv. vys. ucheb. zav.; neft' i gaz 3 no.11:3-7 '60. (MIRA 14:1)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M. Gubkina.
(Shkapovo region—Oil reservoir engineering)

3(4)
AUTHOR: Ginzburg, L. V.

SOV/6-59-7-19/25

TITLE: Municipal Traverse Surveying With Wall Bolts (Gorodskaya poligonometriya so stennymi tsentrami)

PERIODICAL: Geodeziya i kartografiya, 1959, Nr 7, pp 59-61 (USSR)

ABSTRACT: At present, the points for the municipal traverse survey are fixed by wall bolts with removable poles, as well as by pairs of wall signs. Both types are inconvenient and imperfect. A different type is suggested here to reduce the shortcomings. Two wall bolts, one each on two opposite walls, should be attached to buildings every 200-250 m. The sight between the signs of one pair should be ensured, and, if possible, also the sight between the wall bolts of neighboring pairs. The hole-axis in a spherical projection serves as center of the sign. The wall bolts are described in detail, and shown in two views in figure 1. The height above ground is 1.3-1.4 m. This permits the same to be used as fixed points for leveling. The methods of joining the theodolite traverses by the use of such wall bolts are pointed out. In this kind of installation of wall bolts, the joining traverses and the computation

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are easily carried out. There are 3 figures and 1 Soviet reference.

5(4); 15(9) SOV/76-33-6-35/44

AUTHORS: Tutorskiy, I. A., Ginzburg, L. V., Dogadkin, B. A.

TITLE: On the Decomposition Mechanism of Disulphides Under Conditions of Vulcanization (O mekhanizme raspada disul'fidov v usloviyakh vulkanizatsii)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1401-1408 (USSR)

ABSTRACT: The decomposition mechanism of organic disulphides used as vulcanization accelerators has been insufficiently clarified up to now. It is assumed that a decomposition only takes place on the weaker S-S bindings, and not on the C-S bindings, which has been recently doubted. In the present paper, the decomposition mechanism of the 2,2'-dibenzenethiazolyldisulphide (I) (altax, DBTDS) was investigated under vulcanization conditions by means of the S^{35}-radioisotope. Mixtures of purified Na-butadiene rubber (SKB-50 Shch (for foodstuffs)) containing 1 and 2 parts by weight of (I) to 100 parts of rubber (R) were exposed to vulcanization. In the vulcanization without sulphur, (I) was used on the disulphide bridge marked with S^{35}. The quantity of (I) deposited on (R) was determined radiometrically (Ref 8), whereby the S-quantity deposited

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On the Decomposition Mechanism of Disulphides Under Conditions of Vulcanization

from the S--S binding was determined, whereas the total quantity of deposited S was determined by a chemical method. The results obtained show that the quantity of total sulphur exceeds that from the disulphide bridge by more than 2, which points to an asymmetric decomposition of (I). In a vulcanization without sulphur with (I) it seems that, besides the decomposition on the S--S binding, also an asymmetric decomposition on the C--S binding takes place, which also applies to the vulcanization with sulphur (besides (I)). The reaction of the (I) deposition, and that of the sulphur on (R), occur in parallel, and there is a linear function between the quantity of bound S and that of (I). The velocity constant for the (I) deposition on (R) rises linearly with the concentration of (I), but there is a limiting value for the added quantity of (I) (about 75% of the added quantity of (I)), which is independent of the concentration of (I). Data on the composition of the (R)-mixture (Table 1), on the vulcanization with S besides (I) (Table 2), as well as on the distribution of radioactivity between the vulcanizate and the extract

On the Decomposition Mechanism of Disulphides Under Conditions of Vulcanization

(Table 3) are given. There are 6 figures, 3 tables, and 14 references, 11 of which are Soviet.

ASSOCIATION: Institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova Moskva
(Institute of Chemical Fine Technology imeni M. V. Lomonosov Moscow)

SUBMITTED: December 23, 1957

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